

**What Is Claimed:**

1. A self-contained, combined, gas and smoke detector comprising:
  - 5 a gas sensor;
  - a smoke sensor;
  - a programmed control element coupled to both of the sensors;
  - a housing which defines an internal region for receiving the sensors and the control element wherein the housing is perforated with a first opening shaped as a fire; and
  - 10 a removable protective planar element, covering at least a part of the gas sensor within the housing wherein the element is applied during manufacture and is removed once the detector has been placed into service.
- 15 2. A detector as in claim 1 which includes a light emitting element positioned adjacent to the first opening wherein the light emitting element is energized in the presence of smoke thereby illuminating the fire shaped opening.
- 20 3. A detector as in claim 1 wherein the housing is perforated with a second opening shaped unlike the first opening and including a second light emitting element positioned adjacent thereto, wherein the second light emitting element is energized in response to the presence of gas thereby illuminating the second opening.
- 25 4. A detector as in claim 1 wherein the housing has a perimeter formed of a plurality of intersecting planar sides wherein at least some of the sides intersect at angles in excess of ninety degrees.
- 30 5. A detector as in claim 1 wherein the housing has a perimeter that is non-circular and which carries an elongated, movable test initiating member.

6. A detector as in claim 1 wherein the control element includes executable instructions for selecting between first and second different, pre-stored fire alarm indicating horn patterns.

5           7. A detector as in claim 6 wherein the control element includes executable instructions for automatically testing the sensors.

10           8. An apparatus comprising:  
                a gas sensor;  
                a smoke sensor;  
                control circuitry including a programmed processor coupled to the sensors, the control circuitry determining if a predetermined gas condition has been sensed, the control circuitry also determining if a predetermined smoke condition has been sensed wherein the processor stores at least first and second  
15           non-verbal alarm specifying horn patterns; and  
                an alarm energizable to produce the first pattern when the gas condition is present, and to produce the second pattern in the presence of the predetermined smoke condition.

20           9. The apparatus of claim 8 wherein the gas sensor includes a biomimetic material that responds to the presence of carbon monoxide.

25           10. An ambient condition detector comprising:  
                an ambient condition sensor;  
                a control circuit, coupled to the sensor, which includes a processor programmed with a plurality of executable instructions and at least two pre-stored, different alarm specifying, non-verbal output patterns both associated with the same sensed ambient condition wherein some of the instructions, in response to the sensed alarm condition, select one of the two pre-stored alarm  
30           specifying patterns for output.

11. A detector as in claim 10 which includes a second, different ambient condition sensor coupled to the control circuit.
12. A detector as in claim 11 which includes a third, pre-stored, 5 alarm specifying, non-verbal output pattern associated with the second sensor.
13. A detector as in claim 12 which includes instructions for establishing the presence of an alarm condition associated with the second sensor and for audibly generating the third alarm specifying output pattern. 10
14. A detector as in claim 13 which includes instructions for automatically carrying out a test of each of the sensors.
15. A detector as in claim 13 which includes circuitry for evaluating at least one internal status condition and, responsive thereto, for generating an audible indication thereof. 15
16. A detector as in claim 15 which includes a power supply and the circuitry evaluates an electrical parameter of the supply. 20
17. A detector as in claim 16 wherein the supply comprises a battery and the electrical parameter comprises a battery output voltage.
18. A detector as in claim 15 which includes a planar cover member removably attached to the gas sensor and removable when the detector is placed into service to expose the sensor to ambient airborne gas. 25
19. A detector as in claim 18 wherein the first sensor comprises a smoke sensor and the second a sensor comprises a gas sensor. 30

20. A detector as in claim 13 which includes instructions for automatically carrying out a test of each of the sensors.

21. A detector comprising:

- 5                   a housing which defines an internal region;
- a user non-replacable biomimetic-type gas sensor carried in the region wherein during manufacture, the gas sensor is sealed with a user removable planar sealing tape which is located at least in part in the internal region;
- a fire sensor carried in the region;
- 10                 a programmed processor carried in the region, coupled to the sensors; and
- instructions executable by the processor for automatically and periodically testing the sensors.